

Application Ser. No. 10/613,883

METHOD AND APPARATUS FOR RETAINING MODEL STRUCTURAL MEMBERS

Amendment in Response to Office Action Dated December 30, 2004

Remarks:

Claims 1-8, 10, 12-13, 16-27, and 29 remain in this application. Claims 18-20 were indicated to be allowable in the previous office action, and applicant has amended claim 18 to include the limitations of base claim 1 and claim 17 previously presented to which the structure of claim 18 relates. Claims 1, 18 and 27 are independent claims relating to the apparatuses of the invention, and claim 21 is an independent claim relating to the method set forth therein.

The present invention is directed to an apparatus and method for retaining model structural members and the retainer in particular used for holding the model structural members in place during construction of the model structures. As noted in the specification, the present invention is used primarily in educational environments where students build and test structures for competitions such as the Science Olympiad®. Applicant has thus defined in the text of the specification the terms “model structures” and “model structural members” to which the present invention relates for purposes of clarity. Rather than in regard to prior methods of construction necessitating the use of pins which are placed in a foam board for holding the pieces of balsa or other model structural members in place, the present invention presents a substantial advance which allows the builder to quickly and easily position the model structural members and then bond them together to form the model structure which is then removed from the base member.

Applicant has endeavored by this amendment to emphasize the novel aspects of the invention which clearly distinguish it from the prior art. In claim 1, applicant has included the recitation that the retainer is of one-piece construction, includes a lobe with sizing characteristics related to the

flange and the peg, that the lobe is sized so that a model structural member is received between the flange and the base member, and that the retainer includes a handle which enables pivoting the retainer as a whole about the peg when the peg is received in one of the recesses.

In this regard, the invention is quite different than the cited art. First of all, none of the references cited would be considered by one in the art of retaining model structural members. With respect to the anticipation rejection on the basis of the Blackburn '165 patent, Blackburn's device is made up of the plate surface 10 which has threaded holes for receiving therein the threaded portion of the bolt 20. The screw 28 is separate from the locking disc 20. Applicant respectfully disagrees with the assertion that the screw 28 and locking disc 20 are "unitary" as they clearly are separate items. Webster's Ninth New Collegiate Dictionary states that "unitary" means "UNDIVIDED, WHOLE" and clearly this is not the case with regard to the separate components of the screw and locking disc of Blackburn. Turning of the screw 28 merely threads it into the openings in the plate surface 10, and because the screw 28 is separate from the locking disc, and has a smooth shank, there is no peg which provides a pivoting of the entire retainer when a handle is turned, as is the case in the present invention. Rather than unitary construction with a lobe, peg, flange and handle, turning of the screw 28 of Blackburn '165 merely holds the locking disc 20 down against the plate surface 10. The advantages of applicant's structure are far different than in the Blackburn reference, as it allows the lobe to bias against the structural members and hold them in place. This is not contemplated or permitted by the Blackburn '165 patent.

With regard to the Yonezawa '940 assembly toy set, applicant again earnestly disagrees that the reference remotely shows or teaches the method or apparatus of the present invention. The fittings (e.g., 7, 10, 11, 12, 13 and 14) are the structural members and are self-retaining by virtue of the protruberances 6, rather than having any separate retainers as described in accordance with the present invention. The Yonezawa '940 toy is intended so that the various fittings may be inserted in the various arrangements shown in Figs. 9, 10, 11 and 12 and removed from or replaced on the baseboard 1. The examiner has referenced the circular fitting 10 but it is clear that this does not hold down any of the other fittings, as the protruberance 6 thereof would not reach into the holes 4. Moreover, the Yonezawa circular fittings are positioned outboard or at the intersection of the other fittings to provide a crossing as described in the specification and shown in the drawings, and there is no teaching or suggestion of their use as a retainer for the other fittings. In this regard, the fittings do not include a handle extending opposite the peg, nor a lobe positioned between the flange and the peg as a part of the one-piece construction. Finally, there is no bonding involved in the Yonezawa reference, as it merely teaches abutting engagement at col. 2, lines 55-57. In fact, to bond the fittings together would not enable the rearrangement of the fittings as shown in Figs. 9, 10, 11 and 12. Thus, applicant respectfully submits that the Yonezawa '940 patent does not anticipate, nor render obvious, the present invention, as it is a toy rather than a device used for constructing model structures.

With respect to the asserted obviousness rejection based on the combination of Blackburn and Yonezawa, applicant initially points out that there must be some teaching or suggestion in the

art itself to combine these references, not merely the use of hindsight gained by applicant's invention from which parts and pieces may be selected. Blackburn is not concerned with model structural members and constructing them by using frictional fit retainers of unitary construction for ease of positioning and assembly, but rather an industrial device for mounting optical or laser devices. There is no reason to believe that one skilled in the art would look to combine a toy such as Yonezawa with Blackburn's apparatus for mounting optical or laser devices. Certainly the references are devoid of any suggestion of the combination, or of including a handle which allows pivoting of the retainer as a whole about the peg which is frictionally fit within a recess for holding a model structural member against a base.

The examiner has also brought to applicant's attention the Braun '619 patent. The Braun clip is only incidentally mentioned in connection with a collapsible cage. The device of Blackburn is neither in the field of applicant's endeavor nor concerned with the problem of temporarily holding model structural members in place for constructing a model structure. The clip thereof is not suggested for use in combination with Blackburn's device for mounting equipment, nor is there any suggestion or teaching of how the references would be combined. In fact, it is submitted that Braun '619 is selected in the abstract and has no relationship to the present invention. As claim 17 is currently amended, Braun does not include the ability to position the model structural members along one of two edges at an acute angle to one another. Certainly there is no teaching of such, or how it could be used in this regard. Accordingly, applicant submits that not only are both references non-

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analogous art, but that the hypothetical combination of Braun and Blackburn is nowhere taught or suggested by these references.

The examiner has also cited the Evan's 5,360,365 patent. Again, this reference is not concerned with a retaining structure for holding together model structural members. It is merely a model itself, cited for the proposition that two pieces of a model may be glued together. This has nothing to do with applicant's invention, which provides means for retaining the separate model structural members in position during bonding – something neither shown nor suggested by the hypothetical combination.

Applicant respectfully submits that the claims as presently amended clearly distinguish over the prior art, which have been assembled only with the benefit of hindsight having no relationship to one another. It is clear from the teachings of these references that they do not contemplate the method of the present invention. It is further clear that none of the cited references include the structural members now recited. Of course, the examiner may take the position of an advocate, search among the prior art, and find unrelated patents with virtually any structural member and advance the argument that the references so selected will render any invention obvious. On the other hand, to do so is impermissible hindsight reconstruction. When the applicant's invention is given fair consideration, it is respectfully submitted that the claims as now amended are manifestly patentable over the art of record.

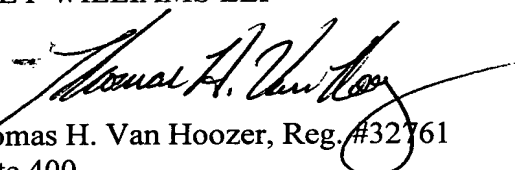
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Applicant believes that all claims currently pending define over the prior art and thus early issuance of the Notice of Allowance is courteously requested. Should the Examiner have any questions in response to this submission, he may contact the undersigned at 1-800-445-3460. Any additional fees necessitated by this submission such as an extension of time, if required, may be charged to deposit account 19-0522.

Respectfully submitted,

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